



# **NAVAL POSTGRADUATE SCHOOL**

**MONTEREY, CALIFORNIA**

## **THESIS**

**QUANTITATIVE AND QUALITATIVE HIRING FREEZE  
OUTCOMES AT THE U.S. ARMY MISSION AND  
INSTALLATION CONTRACTING COMMAND**

by

Jacqueline Evans  
Ezra Hatch

March 2014

Thesis Co-Advisors:

Dina Shatnawi  
Marco DiRenzo

**Approved for public release; distribution is unlimited**

THIS PAGE INTENTIONALLY LEFT BLANK

<b>REPORT DOCUMENTATION PAGE</b>			Form Approved OMB No. 0704-0188	
Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instruction, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188) Washington DC 20503.				
<b>1. AGENCY USE ONLY (Leave blank)</b>		<b>2. REPORT DATE</b> March 2014	<b>3. REPORT TYPE AND DATES COVERED</b> Master's Thesis	
<b>4. TITLE AND SUBTITLE</b> QUANTITATIVE AND QUALITATIVE HIRING FREEZE OUTCOMES AT THE U.S. ARMY MISSION AND INSTALLATION CONTRACTING COMMAND			<b>5. FUNDING NUMBERS</b>	
<b>6. AUTHOR(S)</b> Jacqueline Evans and Ezra Hatch				
<b>7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)</b> Naval Postgraduate School Monterey, CA 93943-5000			<b>8. PERFORMING ORGANIZATION REPORT NUMBER</b>	
<b>9. SPONSORING /MONITORING AGENCY NAME(S) AND ADDRESS(ES)</b> N/A			<b>10. SPONSORING/MONITORING AGENCY REPORT NUMBER</b>	
<b>11. SUPPLEMENTARY NOTES</b> The views expressed in this thesis are those of the author and do not reflect the official policy or position of the Department of Defense or the U.S. Government. IRB protocol number NPS.2014.0008-IR-EP7-A .				
<b>12a. DISTRIBUTION / AVAILABILITY STATEMENT</b> Approved for public release; distribution is unlimited			<b>12b. DISTRIBUTION CODE</b> A	
<b>13. ABSTRACT (maximum 200 words)</b> Unanticipated hiring freezes impose considerable constraints on organizations and their employees by hindering the ability to find or cultivate talent to fulfill shifting demands. This study focuses on hiring freezes and how they affect organizations in the Department of Defense (DoD), specifically the Army Missions and Installation Contracting Command (MICC). This paper discusses potential consequences and the effects of hiring freezes on the MICC. In order to observe these effects, data were gathered from the Defense Manpower Data Center (DMDC) to perform a statistical analysis on employees and their changes in labor market outcomes. The elements studied included attrition, promotion, and productivity during periods when a DoD hiring freeze was in effect and periods when organizations were permitted to fill vacant staff positions. Additionally, an online survey was conducted to gauge the MICC employees' current perceptions of their working environment. Overall, the findings suggest that hiring freeze periods had an effect on the MICC, and the factors that contributed to voluntary turnover at the MICC were poor command climate, job burnout, and low levels of job satisfaction.				
<b>14. SUBJECT TERMS</b> Hiring freeze, job satisfaction, job burnout, job climate, regression analysis, probit, marginal effects			<b>15. NUMBER OF PAGES</b> 73	
			<b>16. PRICE CODE</b>	
<b>17. SECURITY CLASSIFICATION OF REPORT</b> Unclassified	<b>18. SECURITY CLASSIFICATION OF THIS PAGE</b> Unclassified	<b>19. SECURITY CLASSIFICATION OF ABSTRACT</b> Unclassified	<b>20. LIMITATION OF ABSTRACT</b> UU	

THIS PAGE INTENTIONALLY LEFT BLANK

**Approved for public release; distribution is unlimited**

**QUANTITATIVE AND QUALITATIVE HIRING FREEZE OUTCOMES AT THE  
U.S. ARMY MISSION AND INSTALLATION CONTRACTING COMMAND**

Jacqueline Evans  
Lieutenant, United States Navy  
M.H.A., Governor's State University, 2009

Ezra Hatch  
Lieutenant, United States Navy  
B.S., Liberty University, 2004

Submitted in partial fulfillment of the  
requirements for the degree of

**MASTER OF SCIENCE IN MANAGEMENT**

from the

**NAVAL POSTGRADUATE SCHOOL  
March 2014**

Authors: Jacqueline Evans  
Ezra Hatch

Approved by: Dina Shatnawi  
Thesis Co-Advisor

Marco DiRenzo  
Thesis Co-Advisor

William R. Gates  
Dean, Graduate School of Business and Public Policy

THIS PAGE INTENTIONALLY LEFT BLANK

## **ABSTRACT**

Unanticipated hiring freezes impose considerable constraints on organizations and their employees by hindering the ability to find or cultivate talent to fulfill shifting demands. This study focuses on hiring freezes and how they affect organizations in the Department of Defense (DoD), specifically the Army Missions and Installation Contracting Command (MICC). This paper discusses potential consequences and the effects of hiring freezes on the MICC. In order to observe these effects, data were gathered from the Defense Manpower Data Center (DMDC) to perform a statistical analysis on employees and their changes in labor market outcomes. The elements studied included attrition, promotion, and productivity during periods when a DoD hiring freeze was in effect and periods when organizations were permitted to fill vacant staff positions. Additionally, an online survey was conducted to gauge the MICC employees' current perceptions of their working environment. Overall, the findings suggest that hiring freeze periods had an effect on the MICC, and the factors that contributed to voluntary turnover at the MICC were poor command climate, job burnout, and low levels of job satisfaction.

THIS PAGE INTENTIONALLY LEFT BLANK



# TABLE OF CONTENTS

I.	INTRODUCTION.....	1
A.	BACKGROUND .....	1
1.	Impact of a Hiring Freeze on Organizations.....	2
B.	RETAINING THE SKILLS AND TALENT NEEDED DURING A HIRING FREEZE.....	4
C.	PURPOSE.....	5
D.	SCOPE/METHODOLOGY .....	5
E.	BENEFIT OF THE STUDY .....	5
F.	SUMMARY .....	7
II.	LITERATURE REVIEW .....	9
A.	HISTORY OF THE U.S. ARMY MISSION AND INSTALLATION CONTRACTING COMMAND.....	9
B.	HISTORY OF HIRING FREEZES AND THEIR IMPACT ON DOD ORGANIZATIONS .....	10
C.	PAST RETENTION STUDIES.....	11
1.	Climate.....	13
2.	Burnout.....	15
3.	Job Satisfaction .....	16
D.	WORKING FOR THE GOVERNMENT: PAST AND PRESENT .....	17
E.	SUMMARY .....	19
III.	DATA AND METHODOLOGY .....	21
A.	INTRODUCTION.....	21
B.	DMDC DATA DESCRIPTION .....	21
C.	MULTIVARIATE MODEL.....	21
1.	Dependent Variable Specification .....	21
2.	Explanatory Variables Specification .....	22
3.	Summary Statistics .....	23
D.	DATA RESTRICTIONS AND LIMITATIONS .....	24
E.	SURVEY DATA.....	24
F.	SUMMARY .....	25
IV.	RESULTS .....	27
A.	INTRODUCTION.....	27
B.	DMDC DATA.....	27
1.	Model Definition.....	27
2.	Model Specification .....	28
a.	<i>Attrition Model Specification .....</i>	28
b.	<i>Productivity Model Specification.....</i>	29
c.	<i>Promotion Model Specification .....</i>	29
3.	Summary of Regression Results.....	29
a.	<i>Attrition Model Results.....</i>	29
b.	<i>Productivity Model Results .....</i>	30

c.	<i>Promotion Model Results</i> .....	30
C.	MARGINAL EFFECTS.....	32
1.	Marginal Effects Results .....	32
2.	Interpretation of Results .....	34
D.	SURVEY DATA.....	34
1.	Demographics.....	34
2.	Turnover Intentions .....	35
3.	Climate.....	37
4.	Burnout.....	39
5.	Job Satisfaction .....	40
E.	SUMMARY OF SURVEY RESULTS.....	41
V.	CONCLUSIONS AND RECOMMENDATIONS.....	43
A.	INTRODUCTION .....	43
B.	DMDC CONCLUSION.....	43
C.	DMDC RECOMMENDATIONS .....	44
D.	DMDC DATA SUMMARY .....	45
E.	SURVEY CONCLUSION.....	45
F.	SURVEY RECOMMENDATIONS .....	47
G.	SUMMARY .....	49
	LIST OF REFERENCES.....	51
	INITIAL DISTRIBUTION LIST .....	55

## LIST OF FIGURES

Figure 1.	Nonfarm Payroll Employment by Industry (from BLS, 2013) .....	17
Figure 2.	Gender Statistics .....	34
Figure 3.	MICC Race Statistics.....	35
Figure 4.	Hiring Freeze Impacts Model.....	36
Figure 5.	I Intend to Leave the Organization Soon .....	36
Figure 6.	I Feel Betrayed by My Organization .....	37
Figure 7.	Impacts of a Hiring Freeze Period .....	38
Figure 8.	Working Environment .....	39
Figure 9.	I Feel Burned Out From My Work.....	40
Figure 10.	I Like My Job .....	41

THIS PAGE INTENTIONALLY LEFT BLANK

## LIST OF TABLES

Table 1.	Demographic Summary Statistics.....	23
Table 2.	Probit Model Results .....	31
Table 3.	Marginal Effects of Hiring Freeze on Attrition .....	33
Table 4.	Marginal Effects of Hiring Freeze on Productivity .....	33
Table 5.	Marginal Effects of Hiring Freeze on Promotion .....	33

THIS PAGE INTENTIONALLY LEFT BLANK

## **LIST OF ACRONYMS AND ABBREVIATIONS**

ACA	Army Contracting Agency
APF	DoD Appropriated File
CBO	Congressional Budget Office
DMDC	Defense Manpower Data Center
DoD	Department of Defense
FY	Fiscal Year
GAO	Government Accountability Office
GS	General Schedule
MBI	Maslach Burnout Inventory
MICC	United States Army Missions and Installation Contracting Command
OPTEMPO	Operational Tempo

THIS PAGE INTENTIONALLY LEFT BLANK



## **ACKNOWLEDGMENTS**

We would like to thank our advisors, Dr. Dina Shatnawi and Dr. Marco DiRenzo, for their hard work and dedication to ensure that our thesis was completed successfully. Their guidance and patience were crucial in overcoming the difficulties of gathering data and in enabling us to present the information in a concise and cohesive manner. Without their help, we would not have been selected for Thesis Day, and afforded the opportunity to present our results to U.S. Navy leadership.

We would also like to thank the Acquisitions Research Program for keeping us on track throughout the thesis process. The program provides exceptional support in editing and formatting, which guaranteed a smooth transition from concept to completion.

THIS PAGE INTENTIONALLY LEFT BLANK

## **I. INTRODUCTION**

Unanticipated hiring freezes impose considerable constraints on organizations and their employees by hindering the ability to find or cultivate talent to fulfill shifting demands. As such, hiring freezes do not simply maintain the workforce status quo, but they have profound impacts that hinder the quality and capability of organizations long after such freezes have been lifted. This study focuses on hiring freezes and how they affect organizations in the Department of Defense (DoD), specifically the Army Missions and Installation Contracting Command (MICC). In the past, the government has utilized the technique of hiring freezes within the DoD to cut costs and downsize the workforce. However, when this technique is implemented, it can have negative spillover effects that are not intended and can hinder mission success. Some of the potential consequences are increased workload, job demands, and burnout, which can have a significant spillover effect on employee well-being. Civilian employees are critical to the MICC to maintain consistency through the full life of the contract and how contracts are processed. In this paper, we discuss these potential consequences and the effects of hiring freezes on the MICC. In order to observe these effects, we gathered data from the Defense Manpower Data Center (DMDC) to perform a statistical analysis on employees and their changes in labor market outcomes. The elements studied included attrition, promotion, and productivity during periods when a DoD hiring freeze was in effect and periods when organizations were permitted to fill vacant staff positions. Additionally, an online survey was conducted to gauge the MICC employees' current perceptions of their working environment.

### **A. BACKGROUND**

Placing a hiring freeze on any organization will have some ramifications, but the extent of these ramifications depends on the length and purpose of the freeze. At the MICC, a hiring freeze has been in place on and off for the past

three years with no relief in sight. When the hiring freeze has been lifted, it has been for periods of only four to six months, which does not provide enough time to recruit and process the necessary paperwork to hire an employee. With this impractical process, the command is meeting its productivity mission requirements, but at the high cost of its employees' increased time and effort. In this study, we look at the sacrifices of the employees at the MICC, their burnout rates, morale, and job satisfaction as they relate to hiring freezes. We also examine whether employee's are more productive, more likely to attrite or more likely to get promoted during periods when a DoD hiring freeze was in effect and periods when organizations were allowed to hire employee's as necessary.

According to the MICC, there are 1,266 civilians and 374 active-duty military serving in 37 different field offices that provide services to all Army installations located in the continental United States. Before the MICC was established in October 2008 (fiscal year [FY] 2009), the command was named the Army Contracting Agency (ACA); the headquarters was located in Falls Church, VA, from October 2002 (FY2003) and reorganized in September 2008 (FY2008). The ACA was divided into the northern region continental United States, southern region continental United States, and six other outside continental United States regions. Since MICC is a newly established command, we have data for only FY2009 through FY2013. Unfortunately, we could not get data on the performance of the command prior to the restructure. The data that we were able to gather cover the impacts of productivity, voluntary turnover, climate, job burnout, and job satisfaction, which are assessed in this thesis.

## **1. Impact of a Hiring Freeze on Organizations**

Organizations can be greatly affected when the required skill sets, education, certifications, and/or experience are not retained and employees choose to leave or retire from the organization, leaving workload gaps for remaining employees to close. Other potential consequences to be considered resulting from a full hiring freeze include

- high turnover,
- burnout,
- low morale,
- job dissatisfaction,
- low productivity,
- confusion of role in the organization,
- stress,
- health-related issues (e.g., high blood pressure, migraines, anxiety, etc.), and
- spillover effects in personal life.

Maintaining a motivated, healthy staff is important because the atmosphere set by leadership contributes to the productivity and attitude of the employees. There are very few studies, if any, that examine the potential consequences as a result of hiring freezes in the DoD. However, there are many studies that examine this in the context of organizations and corporations outside of the DoD. Chiok Foong Loke (2001) stated that

job dissatisfaction was due to managers not giving due recognition and support, not being able to follow through on problems and not helping but criticizing in a crisis. In this study, it was found that besides providing recognition and support, managers who create a positive climate in the work environment helped employees to be more productive. (p. 192)

If job satisfaction is low, the most knowledgeable and best performers will find a job at another agency or in the private sector to increase their job satisfaction, whereas the mediocre or poor performers will linger in their positions, continuing to remain at the status quo.

The article “The Power of Praise and Recognition” by Rath and Clifton (2004) reiterated that employees who are recognized for their accomplishments feel that they have something to contribute to the organization and that their supervisors acknowledge their diligent effort and care enough to publicly recognize them, which makes their individual productivity and morale increase. Urchuck (1999), a professional speaker, wrote an article stating that supervisors

in current organizations practice criticism more than praise and that employees value a sense of belonging more than they value receiving monetary awards. Ulrich (1999) stated, "You can help build someone's self-esteem and self-motivation through recognition, but also through advancement and responsibility where that person can obtain a sense of achievement and personal growth" (p. 28).

## **B. RETAINING THE SKILLS AND TALENT NEEDED DURING A HIRING FREEZE**

Retaining people with the skills and talent necessary during a hiring freeze is very difficult when commands such as MICC are facing budget limitations, burnout, and mission requirements. Burnout is a substantial cause of organizational turnover and can be characterized in many ways. For example, "burnout can include stress, professional dissatisfaction, absenteeism, low professional involvement, the wish to leave the profession (resulting in turnover) and in more severe cases cause emotional exhaustion or depression" (Vandenberghe & Huberman, 1999, p. 192).

These feelings of burnout can, in turn, lead to low morale and low job satisfaction. Once feelings of burnout are embedded, employees begin to reevaluate their places within the organization and consider retiring, if eligible, or voluntarily leaving the organization. Working continuously and giving full effort with no end or relief in sight is a problem for employees when asked to produce more services with less manpower, resources, and recognition.

In this study, we suggest that employee characteristics that should be considered by the MICC leadership are whether the organization is in line with its mission, whether employees feel valued, how well the employees' time is spent, and how to evaluate the overall well-being of the employees. We also identify which education and skill levels are being retained and whether or not there is a common view among employees on burnout, morale, and job satisfaction levels.

We also examine the average ages of current employees to see if those who are leaving or planning to leave are of retirement age or are departing voluntarily.

### **C. PURPOSE**

The purposes of our study are as follows:

- Determine whether the number of employees being retained at the command have the necessary skill sets and resources to be successful.
- Determine what may lead to an employee leaving or retiring at certain periods from the command.
- Provide recommendations for maintaining a healthy and productive working environment.
- Determine other factors that may impact Army civilian retention decisions.

### **D. SCOPE/METHODOLOGY**

In this study, we use a multivariate logistical regression model to analyze data collected from the DMDC for FY2009 through FY2013. This enables us to identify the characteristics of employees who are retained at the command and employees who are departing the organization. The variables we analyze are demographics, education, overtime pay, and retirement eligibility. We further discuss other variables used in Chapter III. Additionally, we utilize a survey to capture factors that may explain retention decisions not observable through personnel data, such as personal stress levels, job satisfaction, feelings of burnout, and overall climate within the command.

### **E. BENEFIT OF THE STUDY**

We hope to gain the following from this study:

1. Establish a better understanding of current MICC retention trends by
  - Identifying who is staying and who is leaving the command and the skill sets of employees who have chosen to stay. We determine skill set by studying employee education,

academic discipline, certifications, prior service, annual leave used, last promotion, age, and retirement eligibility.

- Exploring why employees are leaving, specifically looking at job burnout, job satisfaction, and job climate.
2. Determine whether or not a hiring freeze is the most effective method for cost savings regarding manpower through
    - Initiating a hiring freeze can be a useful tool to regulate and control resources and fiscal constraints; however, the duration and determined guidelines to carry out the freeze can defeat the purpose.
    - Comparing the cost of having to pay current employees overtime versus paying a regular salary to another employee. Overtime pay seems to be detrimental to retention, negates a cost saving in budget, and is destructive to the well-being of the organization.
  3. Provide potential insight into the problems of the federal civilian employee community and possibly learn how to avoid issues related to hiring freezes at other commands by means of
    - Ensuring employees feel valued and that their hard work is successfully impacting the organization is always a goal. If their work is making a difference, then it is self-rewarding and provides a sense of accomplishment. However, leadership has to sustain an environment that promotes inclusion and teamwork for increased productivity and unity to be successful. If this atmosphere is developed, it is at no cost to the organization and can only benefit employees. If it is not developed, the work environment can become toxic. Curson and Skidmore (2010) stated,

Management routinely consults with the team before making decisions, with all employees' input valued and considered, encouraging a free exchange of ideas. Through participation and consultation employees know and support the objectives of management because they have some involvement with it. The major advantage of such an approach to management lies in greater employee motivation to accomplish their work and significantly improve their productivity. Employees are able to find satisfaction and to show themselves worthy of their managers' trust. (p. 21)

- Exploring potential causes of stressors, job satisfaction, and morale.



## **F. SUMMARY**

Identifying the full impact of a hiring freeze and the root causes of burnout, low morale, and job satisfaction can take time to analyze and decipher; therefore, our information collected from DMDC and online survey help efficiently determine the extent of these causes that should be considered. This thesis also provides insight about burnout, morale, job satisfaction, and the effect they have had on the government, past and present. In addition, we make recommendations to help retain employees and increase overall job satisfaction. Ultimately, the goal of this thesis is to provide feedback on the well-being and potential for turnover of MICC employees and possibly learn how to avoid issues related to hiring freezes at other commands.

THIS PAGE INTENTIONALLY LEFT BLANK

## **II. LITERATURE REVIEW**

### **A. HISTORY OF THE U.S. ARMY MISSION AND INSTALLATION CONTRACTING COMMAND**

The current U.S. Army Mission and Installation Contracting Command (MICC) was established in October 2008 (FY2009) with headquarters at Joint Base San Antonio–Fort Sam Houston, TX. The MICC comprises 37 field offices, which include approximately 1,266 civilians and 374 active-duty military that provide services to all Army installations located in the continental United States. The mission of the MICC (2013) is as follows:

The MICC supports the warfighter by acquiring equipment, supplies and services vital to the U.S. Army mission and well-being of Soldiers and their families. MICC contracted services and supplies touch virtually every Soldier in the Army—from facilities support services, commercial and institutional building construction, administrative and general management consulting services to wired telecommunication and engineering services, contracted food services and advertising—the MICC ensures America's Soldiers and their families have what they need to be ready and resilient. (p. 1)

This command is run by a one-star general and is praised for its timely services provided to its customers. Accomplishments include the following:

In fiscal [year] 2013, the command executed more than 43,000 contract actions valued at more than \$5.3 billion across the Army, including more than \$2.1 billion to small businesses. The command also managed more than 780,000 Government Purchase Card Program transactions valued at an additional \$880 million. (MICC, 2013, p. 2)

Before the MICC was established in October 2008 (FY2009), it was known as the Army Contracting Agency (ACA). Established in October 2002 (FY2003) and reorganized in September 2008 (FY2008), it was headquartered in Falls Church, VA.

The ACA was divided into the northern region continental United States, southern region continental United States, and six other outside continental

United States regions. These regions were established in October 2002 (FY2003) and disestablished in September 2008 (FY2008). All subordinate organizations (installation offices) had offices under the old northern and southern regions, but they were realigned under the MICC, and the assets and personnel also transitioned from the old northern and southern regions to the MICC, which has been under a hiring freeze off and on over the last three years.

## **B. HISTORY OF HIRING FREEZES AND THEIR IMPACT ON DOD ORGANIZATIONS**

A hiring freeze is a tool used to reduce a workforce in a sufficient and timely manner. There are two types of hiring freezes: partial and full. According to the Congressional Budget Office (CBO), “Under a partial freeze, agencies generally permit organizations to replace workers in particular occupations or functions, set an overall limit on the fraction of employees who can be replaced during the year, or do both” (1993, p. 39). A full freeze is one in which no hiring of any kind is allowed until the freeze is lifted by the organization, with very few exceptions permitted for employers who are in the process of hiring staff at the time of the freeze implementation.

From January 1990 to October 1992, the Department of Defense (DoD) reduced civilian employment by 111,000, or 3%–4% each year, primarily by relying on a partial hiring freeze. Although this policy enabled the DoD to steadily reduce its number of employees, the DoD had some difficulty in meeting planned employment levels (Congressional Budget Office [CBO], 1993, p. 39). Reduction in employees has continued into the drawdown we are currently facing and the severe budget cuts that are being implemented. All services within the DoD have been under a full hiring freeze since Secretary of Defense Leon Panetta signed the order in January 2013. The DoD budget proposal for the next five years that was sent to Congress suggested that the civilian hiring freeze remain until 2018 to ensure that the DoD can determine the roles of its civilian employees and their budgetary needs. In an article written by Serbu, “The DoD comptroller’s guidance

to military components ordered that current targets for civilian personnel, based on 2010 staffing levels, will remain in effect through 2018” (2012).

The implementation of a full hiring freeze can affect the well-being and job satisfaction of employees, causing burnout from working consistently long hours, low morale from having to constantly react to unexpected work requirements, not having the cohesiveness with their peers as before, and increased stress that can lead to poor health and absence from work. Stress is also created when employees are not only doing the tasks found in their job descriptions, but also picking up extra work outside of their expertise to cover the workload left over. The CBO (1993) reported, “Because managers cannot foresee and therefore cannot plan for voluntary separations, a freeze has the potential to create significant mismatches between the skills of workers and the requirements of the work load” (p. 41). People who are of better quality tend to separate because they have outside opportunities for growth, which can lead to negative impacts in the organization. In a study by Trevor, Gerhart, and Boudreau (1997), the authors claimed that

where replacement costs are high and high performance of replacements is expected to be low, turnover of high performers is more likely to be dysfunctional for the organization. Thus, it is important to identify the conditions under which employees of different performance levels are most likely to voluntarily leave the organization. (p. 2)

The organization as a whole suffers by not being able to meet mission requirements or barely meeting mission requirements at the sacrifice of the staff’s well-being due to a full hiring freeze. When a hiring freeze of this magnitude is implemented, the organization has limited flexibility because it has to juggle these requirements without abusing staff workload levels.

### **C. PAST RETENTION STUDIES**

Employee turnover is inevitable; however, when someone leaves an organization, one hopes that another employee has the necessary skill set to

replace who left. Phillips (2003) claimed, "The challenge for any organization is creating a proper balance between departing employees and new employees to maintain the correct skill balance" (p. 10). As mentioned before, when a hiring freeze is implemented, this challenge of maintaining skill balance (i.e., education, certifications, and experience) is magnified because of the inability to replace employees leaving an organization. The skill balance needs to be aligned with the organizational goals and mission to ensure success. Another challenge is retaining the best employees and weeding out poor performers, which is also a hard task to complete. According to Phillips (2003),

Contrary to public opinion, for the vast majority of employees, money is not the primary motivator. Endless surveys report that money is seldom ranked as the main reason for joining, leaving, or contributing one's best to an organization. The number one reason for staying is an "intangible benefit of membership" defined as pride in being part of something important, team spirit, or pride in organizational brand. (p. 10)

This sense of belonging that Phillips referred to is important because it shows cohesiveness in the organization and that leadership is taking interest in its people. Leadership should provide feedback on performance and future growth in the organization and encourage employees to do more. A further challenge occurs when employees who began working for the government several years ago become eligible for retirement, possibly leaving a large gap to fill in the future if the position is unable to be filled. Lewis and Cho (2010) determined,

In looking at 35 years of data on full-time white collar workers in federal domestic agencies, Lewis (2009) finds annual exit rates of 10% or higher at each age less than 30 years, exit rates of 6% to 10% at ages up to 38, rates of 5% or less until 53, 10% to 12% until age 58, and 15% to 25% at higher ages. (p. 53).

When these older employees retire, it is currently difficult to replace them with employees that have the same skill set, as younger workers may not have the knowledge base required for the job or the desire and motivation to work in the field.

Additionally, there are very few studies, if any, that examine the potential consequences as a result of hiring freezes in the DoD. However, in an article by Michael Gibbs, he examines turnover intentions of the U.S. DoD Scientists and Engineers by observing the quality of the workforce and skill sets possessed. He further states that, “the highly rigid and bureaucratic nature of DoD pay and personnel policies compared to the private sector may have affected the DoD’s ability to attract and retain high-quality scientists and engineers” (2006, p. 200). Although this study does not deal directly with hiring freezes it alludes to the fact that unless employees are satisfied with their working environment and compensation it can lead to involuntary separation from the organization.

## **1. Climate**

Organizational climate in our research is defined as how employees view the organization’s working environment and how that affects their work behavior and attitude. Aaron and Sawitzky (2006) stated, “Organizational climate includes employee perceptions of and affective response to the workplace and work tasks. More positive organizational climates are characterized by low levels of emotional exhaustion and depersonalization” (p. 290). Having a poor organizational climate can lead to turnover, poor productivity and induced stress among employees, even though they like their job overall. Aaron and Sawitzky (2006) explained,

Research to date has revealed a variety of possible predictors of turnover including organizational culture, organizational climate, and work attitudes. However, these factors are interrelated and organizational culture and climate may directly or indirectly affect work attitudes and, in turn, staff turnover. (p. 289)

The leadership of the organization sets the tone for the working atmosphere and the motivation level of the organization’s employees. When a hiring freeze is implemented, workplace stress is induced; this creates negative effects such as “a toxic work environment, negative workload, isolation, negative types of hours worked, role conflict, role ambiguity, career development barriers, difficult

relationships with administrators and/ or coworkers, and a negative organizational climate” (Colligan & Higgins, 2005, p. 89). These negative effects also create frustration and pressure to produce, leading to poor quality of output and effort. Doing more work with less manpower is a challenge for employees and can quickly be identified by an organization’s leadership through observing the decline in efficiency and effectiveness. These inefficiencies can be linked to pressures to perform and increased workload.

Pressure to perform or produce can not only lead to consequences for individual employees, but also can have a major impact on the organization. When analyzing the results of a survey, Vandekerckhove and Commers (2003) found that “there are cited factors contributing to workplace pressure and pointing toward a dysfunctional organizational culture which are: poor leadership (51%), little or no recognition of achievement (46%), work hours and workload (51%), and lack of management support (48%)” (p. 43). All of these contributing factors lead to job burnout and low job satisfaction, further resulting in voluntary turnover.

When employees become overwhelmed by their workload, it spills over to other members of the team, creating a downward spiral. According to Katz and Koenig (2001), “Downward spirals are pernicious because they are easy to start and difficult to stop” (p. 59). It is difficult to stop because to the employees there is no resolution or relief in sight. “Even if the team eventually enjoys a small success and receives positive task feedback, there is a good chance the team will ignore or misinterpret the feedback, because the information is inconsistent with the team’s view of itself” (Katz & Koenig, 2001, p. 59). Employees at the MICC are currently working long hours that include overtime pay for some, which takes away from their personal lives and creates pressure to meet specific targets. In turn, these behaviors further lead to job burnout and stress.



## **2. Burnout**

Burnout is another cause of organizational turnover and can be characterized in many ways. For example, “burnout can include stress, professional dissatisfaction, absenteeism, low professional involvement, the wish to leave the profession (resulting in turnover) and in more severe cases cause emotional exhaustion or depression” (Vandenberghe & Huberman, 1999, p. 1). In two other articles regarding burnout in the workplace, emotional exhaustion was cited as a key aspect of burnout in standard and severe cases. Burnout not only affects individual workers, but also those they come into contact with, such as coworkers and clients; this burnout can even interfere with employees’ personal lives. According to the Maslach Burnout Inventory (MBI) model, which is a common tool to measure burnout, “demographic analyses show that burnout tends to be higher for people who are single than for people who are married and for younger employees rather than for older employees” (Maslach, 2003, p. 191). We analyzed our survey results to look for trends among employees at the MICC related to burnout.

Another trend mentioned was “the problematic relationship between the person and the work environment, which is often described in terms of imbalance or misfit” (Maslach, 2003, p. 191). Matching the right person to the right job skill is a hard process to master and can be even more complex when the skills being recruited are specific. When an employee is hired and he or she does not have a background in the position hired, there is an instant learning curve that must be overcome by on-the-job experience or by another employee giving on-the-job training, which can slow down the productivity of the organization.

Byrne, Cropanzano, and Rupp (2003) looked at the organizational perspective, suggesting that if employees created an established social exchange between them and the organization there would be more benefits to the employees. These three authors established the social exchange theory, which is the exchange of rewards and recognition for quality work at a higher productivity rate. Specifically Byrne et al. (2003) stated, “Social exchange relationships emphasize the obligations, attachments, and identification that employees feel toward their employers; therefore past research has proposed

using organizational commitment to operationalize an employee's social exchange relationship with his or her employing organization" (p. 161). Knowing that there will be an incentive upon completion of the project or time period gives employees something to work toward and can increase motivation and lower the urge for employees to search for employment elsewhere. Incentives and increased morale can impact job satisfaction just the same.

### **3. Job Satisfaction**

Morale and job satisfaction play a key role in turnover rates; these are usually the deciding factors of whether to stay or leave an organization. Trevor (2001) discovered that "numerous reviews have concluded that job satisfaction is negatively related to voluntary turnover" (p. 7). Based on Trevor's (2001) research, Cotton and Tuttle (1986); Mobley, Griffeth, Hand, and Meglino (1979); Price (1977); and Tett and Meyer (1993) came to the same conclusion that high job satisfaction is negatively correlated with voluntary turnover. We agree with this conclusion because morale and job satisfaction mixed with the current job availability determines whether or not voluntary turnover will occur. With recent budget cuts and other-than-optimal job security, meeting the levels of morale and job satisfaction is more difficult than ever. Levine claimed, "It is a problem for managers who must maintain organizational capacity by devising new managerial arrangements within prevailing structures that were designed under assumptions of growth" (1978). Additionally, it is a problem for employees when they are asked to produce more with less manpower, resources, and recognition.

In this study, we identify characteristics, such as demographics, skill set, and job satisfaction, of those currently employed at the MICC and what may be the outlying characteristics that have an effect on mission success. We identify the education and skill levels retained by the remaining employees and whether or not there is a common view among these employees of burnout, morale, and job satisfaction levels. We also examine the average ages of current employees to see if those who are leaving or planning to leave are of retirement age or are voluntarily departing.

#### D. WORKING FOR THE GOVERNMENT: PAST AND PRESENT

Recently, the federal government has not shown any growth in employment resulting from sequestration, early retirements, regular retirements, and hiring freezes. According to the Bureau of Labor Statistics (BLS, 2013),

Federal government employment declined by 12,000 in October 2013. Over the past 12 months, federal government employment has decreased by 94,000. Federal employees on furlough during the partial government shutdown were still considered employed in the payroll survey because they worked or received pay for the pay period that included the 12th of the month.

Government employment decline is shown in Figure 1.

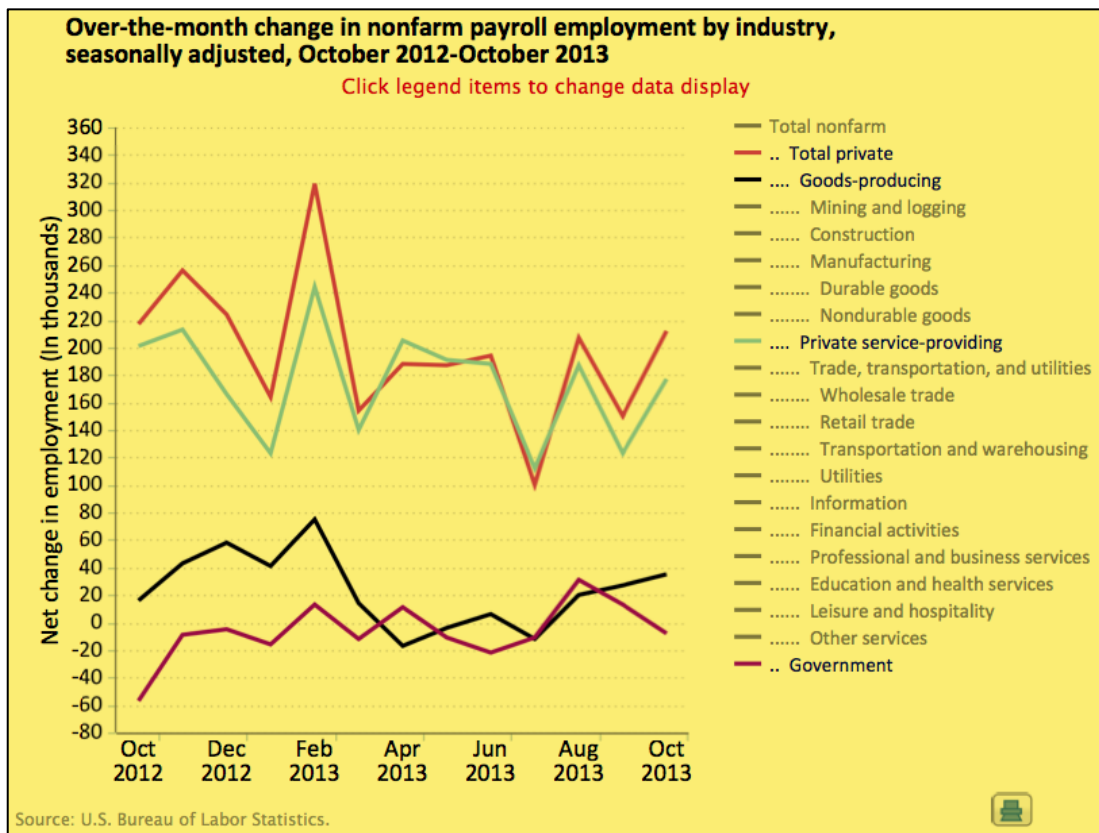


Figure 1. Nonfarm Payroll Employment by Industry (from BLS, 2013)

These pay challenges can be discouraging to current and potential federal employees. If a paycheck is not guaranteed for days an employee works, it can

disrupt personal life; most employees' families depend on a consistent income each month to live a certain quality of life. The government has to make fiscal decisions regarding budget cuts, and human capital seems to currently be suffering the most. Because of this sacrifice, the quality and effectiveness of our government services are rapidly declining and making it harder for all to keep up with the daily operational tempo (OPTEMPO), such as processing paperwork and providing services and other required needs to keep commands operational.

According to a May 2008 report titled *Human Capital: Transforming Federal Recruiting and Hiring Efforts*,

The importance of a top-notch federal workforce cannot be overstated. The nation is facing new and more complex challenges in the 21st century as various forces are reshaping the United States and its place in the world. To address these challenges, it will be important for federal agencies to change their cultures and create the institutional capacity to become high-performing organizations. This includes recruiting and retaining employees able to create, sustain, and thrive in organizations that are flatter, results-oriented, and externally focused and that collaborate with other governmental entities as well as with the private and nonprofit sectors to achieve desired outcomes. (GoldenKoff, 2008, p. 1).

Now more than ever, the civilian federal employment population seems to be losing faith in its government and the government's ability to confidently and effectively make decisions on behalf of civilian federal employees' best interest. In 2001, however, the Government Accountability Office (GAO) identified the management of the federal workforce as a government-wide high-risk area because federal agencies lacked a strategic approach to workforce management that integrated those efforts with their missions and goals (GAO, 2001). Ten years later, strategic human capital management remained on the GAO's high-risk list (GAO, 2011). In the past, the federal government was known for stability and security of employment. However, the trust and loyalty are beginning to fade as better or comparable opportunities are being offered in the private sector.

## **E. SUMMARY**

The MICC has experienced hiring freezes over the past three years, which, if not addressed, can lead to negative consequences for this Army command or any organization. Consequences include workplace burnout, decreased morale and job satisfaction, and most importantly, induced stress. “Stress can help people achieve their goals and propel them through challenging situations. On the other hand, stress can also become burdensome, causing one to experience significant emotional distress and physical illness” (Colligan & Higgins, 2005, p. 90). Based on the literature we have reviewed in this section, the effects of hiring freezes are complex and difficult to reverse, making it harder to maintain the needed employees who have the required skill sets and motivation.

THIS PAGE INTENTIONALLY LEFT BLANK

### **III. DATA AND METHODOLOGY**

#### **A. INTRODUCTION**

This chapter focuses on the data collection, survey analysis, and methodology behind our calculation of changes in workload productivity, stress levels, and job burnout. Our data comes from two sources: the Defense Manpower Data Center (DMDC) and an online survey we distributed to the MICC. The DMDC data section includes a description of the key dependent and explanatory variables that are used for multivariate regression in Chapter IV. Also included are summary statistics for the DMDC data set with a brief description of data limitations. The survey data section includes the general concepts measured by the questions that were asked. Analysis of the data set reveals side effects of hiring freezes that include outcomes worse than maintaining a healthy flow of personnel.

#### **B. DMDC DATA DESCRIPTION**

The first set of data was collected from the DMDC, further collected from the DoD Appropriated File (APF) Civilian Personnel Master File. The data set is a bimonthly snapshot of 2,252 federal civilian employees who worked for the MICC and subordinate commands between FY2009 through FY2013. The DMDC also provided unit identification codes for each individual associated with the specific subordinate MICC, which consists of 37 geographically separated commands.

#### **C. MULTIVARIATE MODEL**

##### **1. Dependent Variable Specification**

The dependent variables of interest in our econometric model were productivity, promotion, and attrition. Each of the dependent variables consisted of binary outcomes as follows: Productivity was defined as a person who was given an award of any kind while employed at MICC, with “0” = no award and “1” = received an award; promotion was calculated by an increase in annual salary,

with “0” = no change in annual salary and “1” = increase in salary; and attrition was defined as a person who left the organization at any time during the four-year period, whether to another job, because of retirement, being fired, or laid off, with “0” = did not attrite, and “1” = did attrite. The main reason that we included retirement as one of the reasons for attrition is that DMDC does not collect information that defines the reason for leaving. Our solution was to create a dummy variable based on when the person left the organization. We believed that including those who left due to retirement was justified because there were people working for the command who were retirement eligible but not retiring. Therefore, the hiring freeze could be causing some of those people who were retirement eligible to take that option earlier than they had originally planned. We also chose to define the attrition variable in this way because the hiring freeze did not allow employees who left the organization to be replaced regardless of why they left. Determining the reason for leaving the organization required further research and data collection that are recommended in Chapter V.

## **2. Explanatory Variables Specification**

Demographic variables in the data set include gender, race, age, and education level. Job variables included functional occupational code, supervisory or managerial status, veteran’s preference status, retirement eligibility, annual leave used, and years of federal service. Compensation variables included salary, pay plan, general schedule (GS) grade and level, and job code, as shown in Table 1.



Table 1. Demographic Summary Statistics

	2009	2010	2011	2012	2013
Male (%)	35	37	38	40	41
<i>Race (%)</i>					
Asian	3	3	3	3	3
Black	24	24	25	25	25
Hispanic	9	11	10	10	10
White	62	60	61	61	61
Other	2	1	1	1	1
Age (mean years)	48	48	47	47	48
Years of federal service (mean)	19	18	17	16	17
<i>Education (%)</i>					
High school diploma	33	31	27	24	23
Bachelor's degree	45	46	48	49	49
Graduate degree	22	23	25	27	28
Annual salary (mean U.S. dollars)	60,653	47,842	63,749	64,413	66,812
<i>General schedule (GS) grades(%)</i>					
1–9	58	52	38	33	27
10–11	23	24	26	26	29
12–13	19	22	31	36	38
14–15	< 1	2	5	5	6
Leave used (mean hours)	6	6	7	6	6
Retirement eligible personnel (%)	40	42	38	36	38

n = 1377    n = 1473    n = 1574    n = 1538    n = 1455

**Note:** Data are separated by fiscal year and include all employees from October 2008 through September 2013. Leave is calculated as the average amount of time individuals utilize when choosing to take leave. Also, respective summary group percentages may not equal 100% due to rounding.

### 3. Summary Statistics

Table 1 displays summary statistics. Preliminary results showed that the MICC was made up of roughly 60% white female employees, with a slight increase of males over the last five years. Average age and years of federal service remained fairly constant, with the majority of employees holding a bachelor's degree or higher. Of note was the increase in GS grades as well as annual salary over the last few years, which could have been caused by the

increase in sample size over the first three years. There was also a relatively low amount of leave used, which appeared to be less than one day on average.

#### **D. DATA RESTRICTIONS AND LIMITATIONS**

The purpose of this thesis is to look at how productivity changes during a hiring freeze period in which personnel leave an organization and the organization is not allowed to replace those personnel. Data limitations restricted a full understanding of the effects of hiring freezes, regardless of the amount of information that was, or could be, collected. The data limitations include: short time span of only five years; no information about the reason that a person separated from the organization; no information about the type of award received or, if a monetary award, the amount received; and no data that showed whether or not a person received overtime pay and amount. These additional data might have given insight about changes in workload, working conditions, and compensation that occurred during the hiring freeze. In order to fill in these gaps of personnel data, we conducted a survey to attempt to capture information about perceived effects of hiring freezes that could not be statistically captured.

#### **E. SURVEY DATA**

Our second set of data came from our survey we distributed through Lime Survey. An invitation to participate in the survey, which included a web link, was sent via e-mail to all personnel working for the MICC. 1,640 employees received the invitation to take part in the survey. Further information about survey responses is included in Chapter IV. The purpose of the survey was to disclose a current snapshot of information in areas that were not quantifiable through personnel data. The survey measured perception at an individual level to gather information from the employees at the MICC regarding burnout rates, job satisfaction, and pressure to produce. The data set consisted of a random sample of over 350 MICC personnel who volunteered to take the survey.

Specifically, participants responded to a 20-minute questionnaire regarding current employee engagement, stress, emotional exhaustion,

psychological contract violation, intentions of quitting, job satisfaction, employability, climate, efficiency, and pressure to produce. The survey also contained basic demographic data including age, gender, race, marital status, and amount of years employed by the MICC. However, all individual questions were voluntary.

## **F. SUMMARY**

This chapter covered the collection of data through the DMDC, including its limitations, and a voluntary online survey to help bridge the gap between the quantifiable and perceived work environment. The preliminary statistics provided a framework for developing an econometric model with the quantifiable data in the next chapter. Econometric regression analysis provides information about the significance of various factors related to working conditions. Further, survey data provides descriptive statistics for individual perception.

THIS PAGE INTENTIONALLY LEFT BLANK

## **IV. RESULTS**

### **A. INTRODUCTION**

In this chapter, we present the regression models based on the DMDC data set with justification for their use and summary results from the data set collected through our online survey. The results from the DMDC are from a five-year period, whereas the survey responses are a current snapshot of the employees employed at the MICC. Therefore, the survey results are intended to add depth to the DMDC data set. We display how each regression model is organized and further define the variables used. Additionally, we analyze the demographics, climate at the MICC, turnover intentions, and productivity. Further discussion of interpretation for both DMDC data set regressions and survey results are discussed in Chapter V.

### **B. DMDC DATA**

#### **1. Model Definition**

Based on the binary variables of attrition, productivity, and promotion described in Chapter III, a probit model was used to analyze the data. The probit model only specified a positive or negative correlation between the explanatory and dependent variables. To garner more information from the model, we also estimate the marginal probability of each variable on the outcome of interest, included in Chapter V. The explanatory variables used were a combination of binary and linear predictors. The explanatory variable of interest was “hiring freeze active,” which designated the difference in time between periods when a hiring freeze was in effect and periods when MICC was allowed to hire employees into open positions in the organization. The hiring freeze variable was interacted with awards and promotion in order to determine whether there were differential effects of certain variables caused by the hiring freeze. All regressions were calculated with Stata software.

## 2. Model Specification

### a. Attrition Model Specification

$$(1) Y = \beta_0 + \beta_1 \text{Age} + \beta_2 \text{R} + \beta_3 \text{G} + \beta_4 \text{E} + \beta_5 \text{S} + \beta_6 \text{C} + \beta_7 \text{H} + \beta_8 \text{RE} + \beta_9 \text{B} + \beta_{10} \text{F} + \beta_{11} \text{V} + \beta_{12} \text{T} + \beta_{13} \text{L} + \beta_{14} \text{P} + \beta_{15} \text{A} + \beta_{16} \text{HF} + \beta_{17} \text{HFP} + \beta_{18} \text{HFA} + \beta_{19} \text{HFRE} + \mu$$

This model is defined as follows: “Y” is the dependent variable attrite, which accounts for any person who left during a hiring freeze. “Age” is the age of the person. “R” is for race, broken down by five different groups classified as Asian, black, Hispanic, white, and other. “G” represents gender. “E” is for education level, which is made up of three different groups including high school diploma, bachelor’s degree, or graduate degree. “S” is for the specialty of the degree or what the person has been equipped to complete through training. Specialty is classified as contracting (officially “logistics,” which is contracting related), legal, administration, financial, or other specialty. “C” designates the employee’s job assignment (or billet) as either contracting or other. “H” is for the amount of hours the person is scheduled to work. “RE” describes an employee who is retirement eligible. “B” is the annual base pay for each individual. “F” is for the fiscal year cohort between FY2009 through FY2013. “V” is for whether or not the person receives veteran’s preference for federal civilian employment. “T” specifies whether or not the person is a temporary employee (this is not related to the hours worked, but whether or not the person is considered permanent or not). “L” is for anyone designated as a leader, whether it is a manager, supervisor, or team leader. “P” is for how many times an individual was promoted while working for MICC. “A” is for how many times a person received an award while working for MICC. “HF” designates the time period a hiring freeze is in effect. “HFP,” “HFA,” and “HFRE” are the interaction terms between the hiring freeze active time with promotion, awards, and retirement eligible, respectively. The interaction terms identify changes in those variables during times when hiring freeze is in effect. And  $\mu$  is anything that cannot be quantified in the model (error term).

**b. Productivity Model Specification**

$$(2) Y = \beta_0 + \beta_1 \text{Age} + \beta_2 \text{R} + \beta_3 \text{G} + \beta_4 \text{E} + \beta_5 \text{S} + \beta_6 \text{C} + \beta_7 \text{H} + \beta_8 \text{RE} + \beta_9 \text{B} + \beta_{10} \text{F} + \beta_{11} \text{V} + \beta_{12} \text{T} + \beta_{13} \text{L} + \beta_{14} \text{P} + \beta_{15} \text{HF} + \beta_{16} \text{HFP} + \beta_{17} \text{HFRE} + \mu$$

This model is similar to the attrition model, with the only differences as follows: The variable A for whether or not the employee received an award has been removed from the explanatory variables. The dependent variable Y, which was attrite in the previous model, is now specified to mean awards received at the MICC and represents the amount of productivity of the employee. Determining the number of awards identifies those who are producing quality and effective workload.

**c. Promotion Model Specification**

$$(3) Y = \beta_0 + \beta_1 \text{Age} + \beta_2 \text{R} + \beta_3 \text{G} + \beta_4 \text{E} + \beta_5 \text{S} + \beta_6 \text{C} + \beta_7 \text{H} + \beta_8 \text{RE} + \beta_9 \text{B} + \beta_{10} \text{F} + \beta_{11} \text{V} + \beta_{12} \text{T} + \beta_{13} \text{L} + \beta_{14} \text{A} + \beta_{15} \text{HF} + \beta_{16} \text{HFA} + \beta_{17} \text{HFRE} + \mu$$

This model is also similar to the attrition model, with the only differences as follows: The variable P, which denotes whether or not the employee was promoted while at the MICC, has been removed from the explanatory variables. The dependent variable Y, which was the attrite variable, is now specified to mean likelihood of promotion while at the MICC.

**3. Summary of Regression Results**

**a. Attrition Model Results**

Table 2 provides a summary of the results from each of the probit models. With the exception of only four variables, all variables were statistically significant at the 95% level. The attrition model showed that a hiring freeze period was negatively correlated with attrition. In other words, the hiring freeze period reduced the likelihood of attrition. This was not consistent with the projected effects of a hiring freeze and is discussed further in Chapter V. However, those

who were eligible for retirement were more likely to attrite, which should have had at least a small positive correlation at any time. Other variables of interest were that black and Hispanic employees had a negative correlation, signifying they were more likely to attrite than their white counterparts, and males were more likely to attrite than females. Employees with a high school diploma and bachelor's degree were positively correlated, meaning they were more likely to attrite than those with a graduate degree. Also, those with a veteran preference were less likely to attrite.

***b. Productivity Model Results***

In this model, there were also only four variables that did not meet the 95% level of significance. The hiring freeze variable was positively correlated, but not at any reasonable significance level, so it appeared that hiring freeze had no effect on the amount of awards given. Also, Hispanic personnel and those in the other race category were more likely to receive awards than white employees, while males were less likely to receive awards than females. Another interesting result was that an employee with a graduate degree was less likely to receive an award than an employee with a lower level of education. Lastly, the amount of promotions was positively correlated with awards, meaning that those who were promoted also received awards for their work.

***c. Promotion Model Results***

The promotion model was similar to the award model; however, there were eight variables that did not meet the 95% threshold. The hiring freeze active variable was positively correlated, meaning that it was possible that there were more promotions when the hiring freeze was in effect. In this model, white females were more likely to be promoted than males of other race categories. Also, those in a contracting billet were more likely to be promoted, which should be expected in organizations that specialize in writing contracts. Further, employees who were designated as temporary were less likely to be promoted, which should also be expected by definition.



Table 2. Probit Model Results

<b>VARIABLES</b>	<b>(1) attrite</b>	<b>(2) awards</b>	<b>(3) Times promoted</b>
Age	0.003*** (0.001)	0.011*** (0.001)	-0.027*** (0.001)
Asian	0.215*** (0.029)	-0.095** (0.040)	-0.344*** (0.029)
Black	-0.101*** (0.014)	0.036* (0.019)	-0.114*** (0.012)
Hispanic	-0.237*** (0.020)	0.267*** (0.030)	-0.072*** (0.017)
Other Race	0.008 (0.049)	0.487*** (0.107)	0.193*** (0.045)
Male	-0.113*** (0.013)	-0.119*** (0.018)	-0.002 (0.012)
High School Diploma	0.149*** (0.018)	0.256*** (0.026)	-0.027* (0.016)
Bachelor's Degree	0.082*** (0.015)	0.133*** (0.019)	0.022* (0.013)
Contracting Specialty	0.080** (0.032)	-0.327*** (0.042)	0.285*** (0.030)
Law Specialty	0.135** (0.056)	-0.059 (0.081)	-0.477*** (0.096)
Finance Specialty	-0.054 (0.040)	0.398*** (0.070)	-0.068* (0.039)
Other Specialty	0.322*** (0.041)	-0.239*** (0.056)	0.022 (0.040)
In Contracting Billet	0.155*** (0.024)	0.146*** (0.030)	0.556*** (0.021)
Weekly Hours Scheduled	0.012*** (0.004)	-0.045*** (0.006)	0.009** (0.004)
Retirement Eligible	0.151*** (0.020)	0.163*** (0.031)	-0.129*** (0.018)
Annual Salary	-0.000*** (0.000)	0.000*** (0.000)	-0.000*** (0.000)
FY2010	-0.213*** (0.018)	0.163*** (0.025)	-0.138*** (0.015)
FY2011	-0.436*** (0.022)	0.119*** (0.017)	0.092*** (0.010)
FY2012	-0.673*** (0.029)	-0.034* (0.017)	-0.011 (0.011)
FY2013	-1.356*** (0.032)	-0.249*** (0.018)	0.057*** (0.011)

<b>VARIABLES</b>	<b>(1) attrite</b>	<b>(2) awards</b>	<b>(3) Times promoted</b>
Veteran's Preference	-0.048*** (0.013)	-0.157*** (0.018)	0.174*** (0.012)
Temporary Employee	1.492*** (0.069)	-1.444*** (0.059)	-0.271*** (0.060)
Leadership Position	0.016 (0.018)	0.310*** (0.031)	0.077*** (0.016)
Number of Times Promoted	-0.247*** (0.011)	0.738*** (0.026)	
Awards Received	-0.278*** (0.003)		0.108*** (0.003)
Hiring Freeze (HF) Active	-0.975*** (0.032)	0.035 (0.029)	0.277*** (0.023)
HF Period Promoted	0.120*** (0.015)	-0.331*** (0.029)	
HF Period Award	0.179*** (0.005)		-0.004 (0.004)
Retire Eligible During HF Period	-0.003 (0.024)	0.099*** (0.037)	0.017 (0.021)
Constant	0.444** (0.174)	2.126*** (0.241)	0.434*** (0.157)
Observations	75,289	75,289	75,289

**Note.** Standard errors are in parentheses (\*\* p < .01, \* p < .05, \* p < .1). The omitted reference variables are white, graduate degree, administration, specialty, and FY2009.

## **C. MARGINAL EFFECTS**

### **1. Marginal Effects Results**

The variable of interest in the personnel data regressions is hiring freeze active variable. Although there were many statistically significant variables in the regression model, there was not enough variation of individual changes through the years to make a candid assessment of significant impact of those other variables. We believe that hiring freeze active is the variable that provides an accurate assessment of the any differences between hiring freeze and non-hiring-freeze periods. Therefore, the marginal effects were derived using that variable.

Tables 3 through 5 give the marginal effects of each of the probit models. The marginal effects in this model predict the probability of an average employee with respect to a hiring freeze period. An average employee of the MICC had a

25% probability of attrition prior to the hiring freeze period and only 21% probability after the hiring freeze was implemented. Similarly, an average employee had a 97% likelihood of receiving an award prior to the hiring freeze being implemented and a 96% probability when implemented. And an average employee had a 42% possibility of being promoted prior to the hiring freeze and a 41% chance when the hiring freeze was applied. The marginal effects did not vary significantly between periods when a hiring freeze was in effect and periods when a hiring freeze was not in effect, which was consistent with the limited variation in the demographic summary statistics provided in Chapter III.

Table 3. Marginal Effects of Hiring Freeze on Attrition

hf_period	Margin	Standard Error	z	P > z	95% Confidence Interval	
No	0.25326	0.00449	56.38	0	0.2444603	0.2620676
Yes	0.21405	0.00361	59.15	0	0.2069582	0.2211441
_cons	0.23174	0.00182	126.69	0	0.2281556	0.2353261

Table 4. Marginal Effects of Hiring Freeze on Productivity

hf_period	Margin	Standard Error	z	P > z	95% Confidence Interval	
No	0.96938	0.00185	523.3	0	0.9657554	0.9730168
Yes	0.95699	0.00187	511.4	0	0.9533284	0.9606632
_cons	0.9629619	0.00084	1138.8	0	0.9613045	0.9646193

Table 5. Marginal Effects of Hiring Freeze on Promotion

hf_period	Margin	Standard Error	z	P > z	95% Confidence Interval	
No	0.41531	0.00526	78.93	0	0.4050016	0.4256277
Yes	0.43182	0.00442	97.54	0	0.4231438	0.4404982
_cons	0.42442	0.00201	211.2	0	0.4204859	0.4283634

## 2. Interpretation of Results

The results suggest that employees at the MICC are less likely to attrite during a hiring freeze period, which is not completely intuitive of the expected outcome. It appears that the amount of awards given declined slightly during the hiring freeze, but promotions increased. This implies that employees were not receiving the same amount of awards as they were prior to the hiring freeze period, but were receiving more pay for their efforts after during the periods when a hiring freeze was in effect.

### D. SURVEY DATA

#### 1. Demographics

Our survey was sent to 1,640 employees, and we received 350 responses, making up 23% of the MICC employee population. This included military (8.17%) and civilian (91.83%) employees. The demographics showed that the genders were equally distributed (Figure 2, Gender Statistics), 66% of employees were married, the average age was 47, and on average employees had one child that lived at home. The race percentages are displayed in Figure 3, Race Statistics: 58% were white, 15% black, 7% Hispanic, 3% Asian, and 3% other.

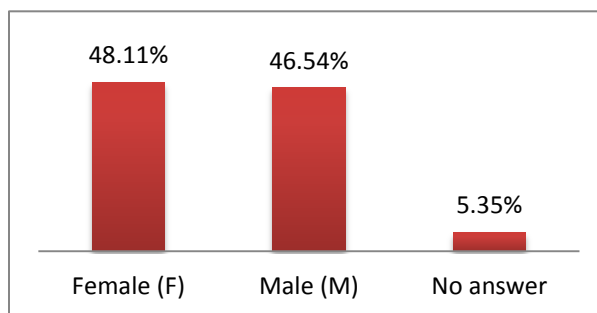


Figure 2. Gender Statistics

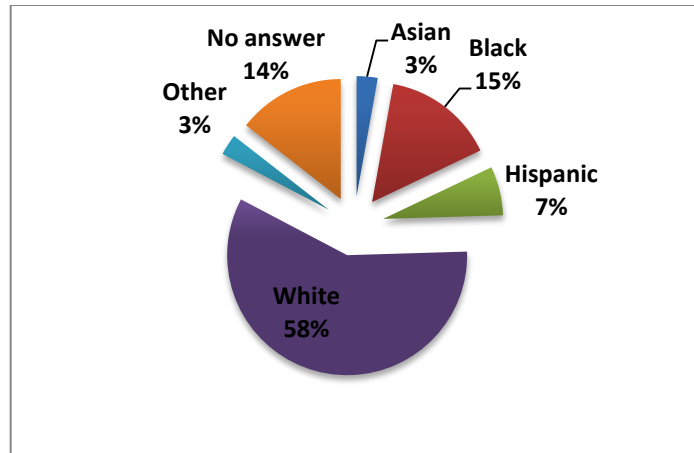


Figure 3. MICC Race Statistics

These demographics suggested a fairly representative sample of the full employee population, which enabled us to make accurate statements regarding the effects of the hiring freeze periods on productivity and personal satisfaction.

Many of the employees worked at the ACA and MICC for an average of 8.5 years; however, it was surprising to discover that 16% of the employees who responded started working at the MICC less than three years ago during the hiring freeze periods. Twelve percent of those who responded had served 20 or more years and were eligible for retirement within the next five years depending on what retirement plan they were enrolled in.

## 2. Turnover Intentions

Turnover has impacted the MICC; however, this could possibly be due to the hiring freeze and other contributors as shown in Figure 4. Utilizing a hiring freeze as a budgetary control can have a domino effect on an organization if not managed and implemented properly. When a freeze is long term with few exceptions to the rule, negative outcomes begin to occur, rather than having a positive effect as intended.

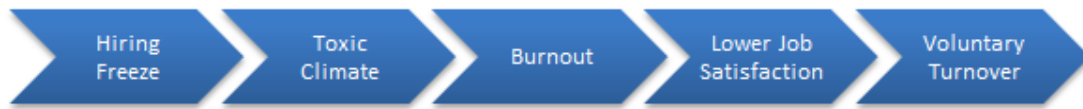


Figure 4. Hiring Freeze Impacts Model

When an environment becomes toxic, it is hard to reverse and requires additional effort to recapture the constructive environment there once was. Further addressing individual burnout and low job satisfaction is even more difficult to reverse due to the negativity that is embedded in employees.

In Figure 5, 28% of current employees plan to leave the organization soon, which again could be a result of factors in Figure 4.

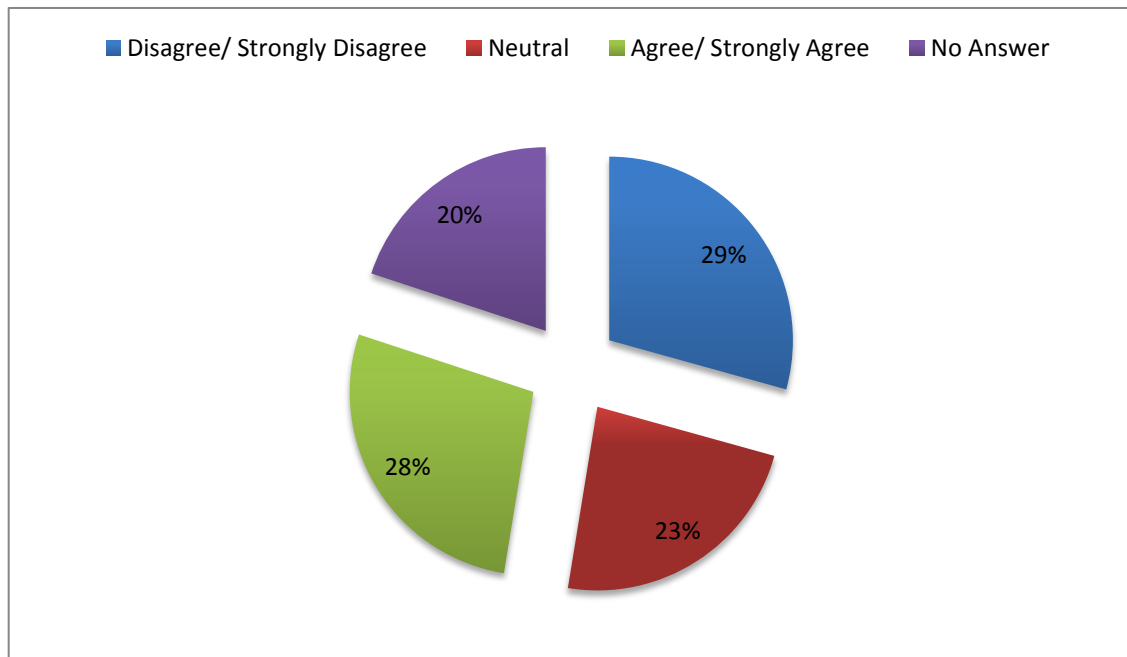


Figure 5. I Intend to Leave the Organization Soon

This statistic was significant because it suggested that over 25% of the work force would need to be replaced in the near future and/or the current work would

have to shift to others who already were overwhelmed with tasks and who may have already been working outside of their position description.

To further explain the turnover intentions, we tested whether climate, job burnout, and job satisfaction were contributors that may be leading employees to the decision of whether to stay at the command or leave.

### 3. Climate

The command atmosphere and environment play a large role in how the attitudes and morale of the employee are shaped. If the environment is toxic, then productivity and efficiency can be affected. Figure 6 reflects feelings of betrayal or violation by the organization. Contributors of the violation could be an increase in workload, including duties outside of the employee's position, pressure to produce, and poor efficiency of the organization. This may suggest why employees may want to leave.

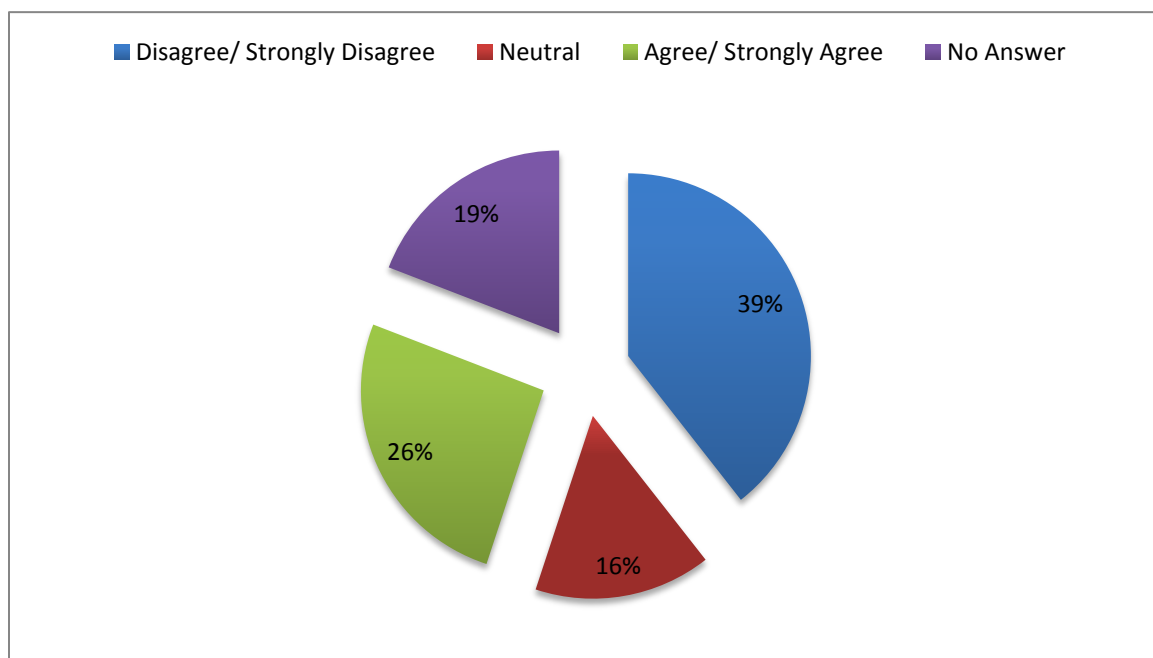


Figure 6. I Feel Betrayed by My Organization

- **Atmosphere/Workload**

As seen in Figure 7, 75% of employees felt that they had a very large daily workload that was constant. This possibly indicated that the hiring freeze made it more difficult for 55% to complete their work in a sufficient manner. Additionally, 62% considered that their workload increased a great deal due to the hiring freeze periods, with 35% feeling that it negatively affected the quality of their work.

- **Pressure to Produce**

Figure 7 also shows that 56% of employees felt that they were strongly pressured to meet targets that were not realistic due to the demanding workload.

- **Efficiency**

Finally, Figure 7 shows that 48% of employees felt that poor scheduling and planning often resulted in targets not being met, and 53% agreed that money could be saved if work was better organized.

Figure 7 displays the results of how the climate has impacted the employees feeling toward their workload further affecting the feelings toward the organization.



Figure 7. Impacts of a Hiring Freeze Period



#### 4. Burnout

As discussed in the literature review, feelings of burnout can be caused by stress and emotional exhaustion. Figure 8 presents the feelings of the organizational environment as very stressful.

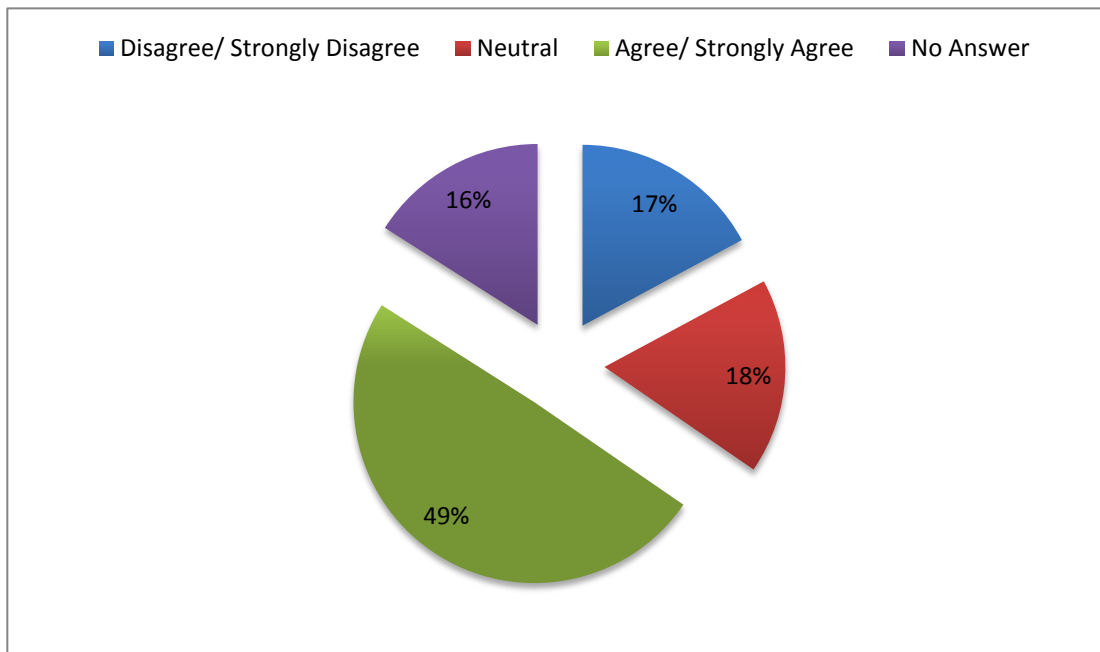


Figure 8. Working Environment

Figure 9 discloses the responses employees had toward feelings of personal burnout.

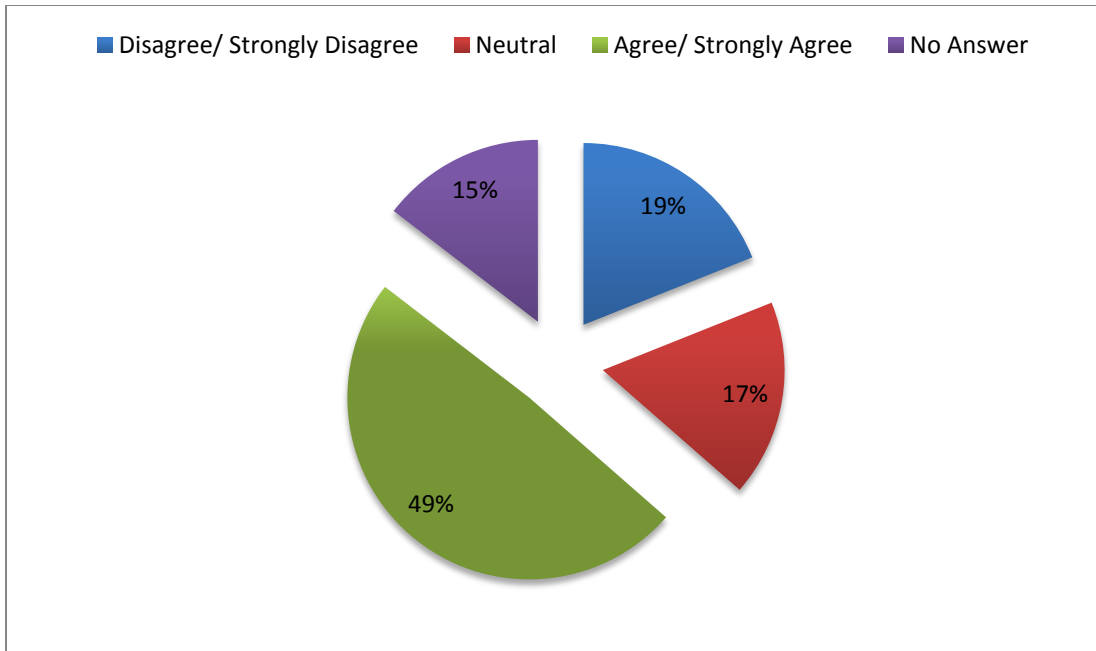


Figure 9. I Feel Burned Out From My Work

- **Stress**  
Stress is an indication of burnout, and 50% of employees who responded said they felt very stressed by their job and worked under a great deal of tension.
- **Emotional Exhaustion**  
Another indication of burnout is emotional exhaustion resulting in 56% of employees feeling emotionally drained from their work at the end of the day and 53% feel fatigued when they get up in the morning and have to face another day on the job.

## 5. Job Satisfaction

Job satisfaction is an important indicator of how employees act and perform in the workplace and whether or not the job is the right fit for their personality and skill set. However, employees first have to love what they are doing. Figure 10 displays that many of the employees who responded liked their job overall; however, many still possessed intentions of leaving the organization.

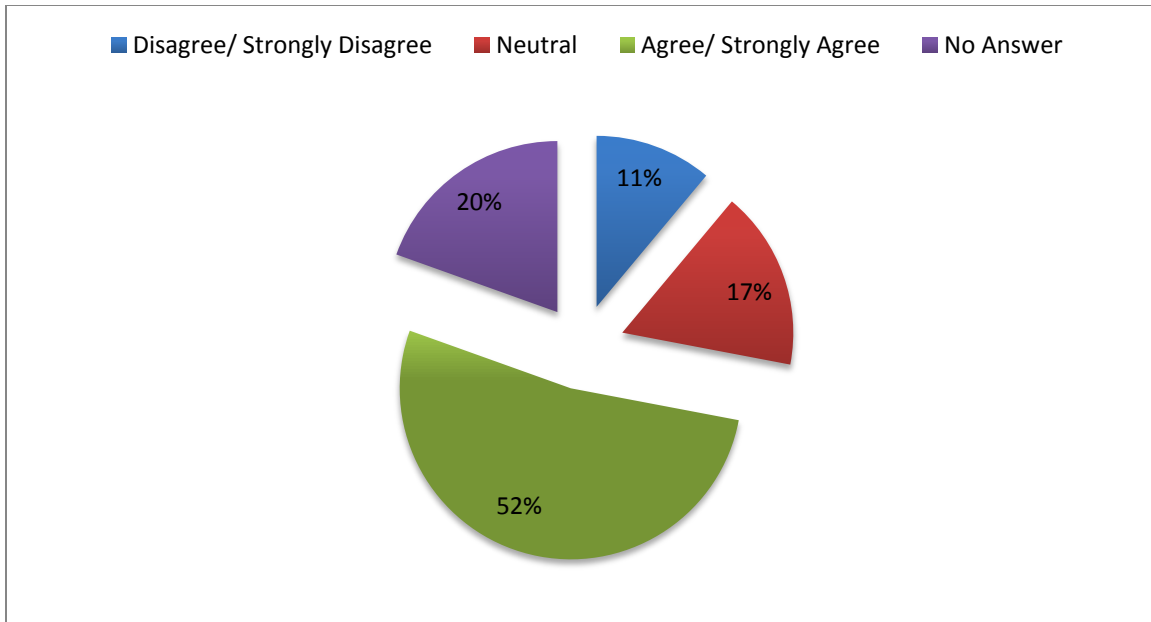


Figure 10. I Like My Job

In the MICC, 31% agreed that as employees they were enthusiastic about their work, while 24% were not. This disagreement may be a result of 33% of responders believing it was generally accepted that people must take time away from their families to get their work completed under strict timelines. Although this may be a common practice, when the workday is over people like to leave it for the next day and revert to their other interests in life, for example family, sports, or community activities.

Additionally, 60% of employees believed they could easily obtain a comparable job with another employer and the new job would provide an equivalent or higher level of satisfaction. Other feelings of opportunity were that 54% believed there was no potential to grow in the MICC and opportunities overall were limited.

## E. SUMMARY OF SURVEY RESULTS

As described in our results, implementing a hiring freeze can cause a domino effect within the organization if the freeze is utilized for long periods of

time and with many restrictions that must be followed. As shown Figure 4 the effects are shown in order of how the factors of climate, job burnout, and job satisfaction are related to the implementation of a hiring freeze. The results presented in this chapter were from a representation of the MICC command and the survey responses were in line with the outcomes of turnover and productivity of the command.

Many of the employees who responded liked their job and what they were currently achieving for the organization overall; however, due to the factors of poor climate, job burnout, and some levels of decreased job satisfaction, some employees were considering leaving the organization. This is important to note because 60% of employees felt that they could find another job in a less toxic environment. In Chapter V, we further conclude the results given in Chapter IV and provide recommendations to consider regarding how to approach and create a goal to reverse some of these effects.

## **V. CONCLUSIONS AND RECOMMENDATIONS**

### **A. INTRODUCTION**

This chapter is an evaluation of the DMDC regression analysis and survey results. The conclusions and recommendations given are interpreted based on a close inspection of the regression analysis and survey results described in Chapter IV. This chapter concludes how we feel the hiring freeze outcomes have affected the MICC as a whole. As we discovered, not only does the overwhelming workload make employees consider leaving the organization, but it also causes them to feel constant pressure to meet deadlines and that they are working in a stressful environment. Additionally, we provide recommendations based on the results we determined from the two sets of data from DMDC and our survey.

### **B. DMDC CONCLUSION**

The results show that employees at the MICC are 4 percentage points less likely to attrite during a hiring freeze period. This is possibly due to an insufficient amount of time lag data between hiring freeze implementation and when the effects would be felt. Also, the decrease in amount of awards and increase in the amount of promotions appear to be balanced statistically during the hiring freeze, but promotions increased. The increase in promotions suggests that, if the employees were in fact being tasked with a greater workload, they were also being compensated with higher pay. Also, since the employees were receiving more pay, they would likely be less inclined to leave the organization during the hiring freeze.

During the five-year period of personnel information gathered, there were still people being hired by the MICC. Even during times when the hiring freeze was in effect, there were certain waivers allowing new personnel to be hired. This suggests that if there are work environment issues at the MICC, they may not be related to the hiring freeze and may be caused by another policy or work

conditions. We believe that further research needs to be conducted to determine the cause or factors that are contributing to the work environment issues that are impacting the MICC.

### **C. DMDC RECOMMENDATIONS**

**1. Conduct further research using more years of data covering hiring freeze periods.**

- The ramifications of new procedures at any organization will not be immediately evident when implemented, and a hiring freeze may be an example of that. In order to understand the differences between a hiring freeze and non-hiring-freeze period, there must be a longer time horizon to analyze in order to see a more representative effect of the hiring freeze. The effects of a hiring freeze at the MICC may only be starting to take effect on workload, which is why a good portion of employees made it evident that they desired to leave the organization as soon as possible based on the survey results stated in Chapter IV.

**2. Gather DMDC data from other DoD commands that are subject to the same hiring freeze restraints.**

- Data from other organizations will allow researchers to compare similarities and differences between the organizations to further determine true effects. The results may also show other factors such as education, demographics, and pay incentives that may be causing changes in the work environment. These factors may further show whether or not the hiring freeze is a causal factor affecting work productivity and if there are other significant issues.

**3. Compare DMDC data with the state of the economy for the respective years during the hiring freeze.**

- The data show that attrition appears to have slowed during the hiring freeze period, which could be correlated to a poor economy in which job supply is at a minimum. If the economy is poor, then employees at the MICC may simply be thankful to be employed, regardless of an increase in workload. This recommendation could be coupled with gathering more years of data to determine if those who are overworked look for jobs outside the federal employment system as the economy improves.

#### **D. DMDC DATA SUMMARY**

The information derived from this study is not completely intuitive, especially with regard to the likelihood of a person leaving the MICC during a hiring freeze period. There are certainly many factors that contribute to the work environment, which could also impact productivity and satisfaction within the organization. Further research is recommended since there is currently little to no literature on the effects of hiring freezes in the DoD. This study has hopefully started a movement that will induce other researchers to investigate the true effects of hiring freezes and look for other methods that would be more effective at controlling costs for the DoD. Additionally, the DoD should gather personnel data regarding why a federal employee leaves an organization. Knowing if an employee is leaving for other federal employment, other civilian employment, retirement, or due to termination would greatly contribute to understanding the effects of a hiring freeze as well as other work related stressors.

#### **E. SURVEY CONCLUSION**

The hiring freeze periods affected the productivity of MICC employees, but we were unable to determine the actual magnitude of the affect. Based on Figure 1 in Chapter IV, the implementation of a hiring freeze can lead to voluntary turnover, which can have negative impacts on the organization. What we were able to determine is that 28% of employees planned to leave the organization soon because of poor climate, job burnout, and low job satisfaction.

The climate of the command contributed to 26% of employees feeling betrayed by the organization, which could be due to 75% of employees that responded believing their workload had greatly increased since the hiring freezes began and 56% feeling they were pressured more than ever to meet their targets. We feel these statistics are important to address because poor climate leads to individual employee burnout and dissatisfaction. When employees are marketable but dissatisfied, they tend to find opportunities elsewhere. Organizations need to address these issues promptly or employees will leave to

find greater satisfaction in the workplace. Further, when a hiring freeze has been implemented, it only exacerbates underlying issues such as those mentioned above.

Not only did 49% of the employees who responded to the survey feel that the environment was stressful, but 49% also felt burned out from work overall. Stress and emotional exhaustion are factors of burnout, which can make employee's feel as if there are no goals or sense of purpose to work toward. These factors are important to address because if they are interfering with work, they are more than likely affecting employees' personal lives as well. Additionally, 53% felt fatigued when they got up in the morning and had to face another day on the job. We feel that this statistic says a lot about the emotional exhaustion that employees were feeling, which can have a negative effect not only on productivity, but also on employees' confidence in their jobs and job satisfaction.

Job satisfaction is important because it affects workplace efficiency and attitude. Of those who responded, 52% of employees liked their job at the MICC, but still had intentions to leave the organization soon. This is alarming because it seems that it was not the job itself they were dissatisfied with, but the organizational climate and a sense of job burnout from increased workload, pressure to produce, and stress. Again, this alludes to Figure 1 and the domino effect of implementing a hiring freeze. Furthermore, 60% of employees believed they could easily obtain a comparable job with another employer that would produce a similar or increased level of satisfaction. We feel that this statistic suggests that employees are or have thought of leaving the organization despite the 28% of employees who responded that they plan on leaving the organization soon.

In the results regarding turnover intentions we further felt that this statistic is significant because this would be a further portion of the work force leaving the organization when there are already 263 unfilled civilian billets and 104 unfilled military billets. This would contribute to an additional shift in workload that would need to be covered by employees who were already overwhelmed and may have



been working outside of their position descriptions. We were provided additional data on the overtime paid to employees who had to work more than their standard 40-hour work weeks, but we were unable to analyze this information. Therefore, it would be beneficial to the MICC to have researchers examine the difference between the cost of overtime pay for current employees and the cost of hiring more employees at regular pay levels to determine which is more of a cost savings. By just observing the overtime paid out in the last three years (approximately \$17 million), it appears the cost was significant and could have been better utilized to hire unfilled civilian positions at a regular salary, which would also relieve the job burnout of current employees working at the MICC. We recommend that further research involving a cost-benefit analysis of these scenarios be conducted. Obviously enabling the MICC to hire required positions would contribute to the reversal of the effects of a hiring freeze as shown in Figure 4, but not just any of the positions need to be hired. Rather, the MICC should focus on hiring critical and demanding positions, which could possibly lead to a difference in the working climate, job burnout, and job satisfaction among current employees.

The baffling point in our survey results was that during these hiring freeze periods, 16% of those who responded in the survey were hired during these periods, which leads us to believe there may be more than just hiring freeze issues, but further climate and satisfaction issues that were not captured from the survey.

## **F. SURVEY RECOMMENDATIONS**

- 1. Compare hiring freeze effects at the MICC to those at other military service commands that also deal with acquisitions and contracts.**
  - The Army is not the only service branch that has been impacted by a DoD implemented hiring freeze, so it would be beneficial to examine whether or not similar commands are experiencing the same issues and, if so, how they are coping with them.

2. **Consider the effects of underlying issues that may lie within the command climate and individual employee job burnout and job satisfaction, since employees are being hired during hiring freeze periods.**
  - We are not sure if these employees are being hired under exceptions, but feel that a more in-depth study could identify any underlying issues and further distinguish the current issues of command climate, job burnout, and job satisfaction. This would ensure that the proper goals could be created and achieved correcting the concerns; avoiding further negative trends.
3. **Identify creative ways to keep employees feeling as if they are valuable assets of the MICC and ensure open communication between working relationships to ensure targets are met and the command's mission is successful.**
  - Ensuring role clarity, such as defining expectations and outlining new and existing tasks, may prove beneficial to employees and the overall command climate. It may also be useful to examine employee recognition efforts in an attempt to keep employees motivated and engaged in the success of the command's mission.
4. **Do a cost-benefit analysis on overtime payout versus hiring full time employees to do the work.**
  - Overtime pay over the last three years was very high. It may be worthwhile to examine whether or not the funds utilized to pay current employees for overtime could have been utilized better. For instance, these funds could have been used to pay for the standard salaries of additional employees, who would have contributed to the daily workload at a significant savings over overtime pay for current employees.
5. **Identify which billets that are filled and unfilled are critical positions, and ensure that these are hired when possible.**
  - Identifying critical billets and filling them first may have a greater impact on improving climate, job burnout, and job satisfaction issues than filling non-critical positions would. These are not necessarily supervisory positions, but positions that require a specific skill and maintain a steady workload that exceedingly affects productivity within the organization. It may also be necessary to identify who is currently in these positions and monitor their well-being and workplace satisfaction to reduce the chance of voluntary turnover.

## **G. SUMMARY**

Overall, we found that hiring freeze periods had an effect on the MICC, but we are unsure of the magnitude of their impact. However, based on the data we were able to collect, the factors that contributed to voluntary turnover at the MICC were poor command climate, job burnout, and low levels of job satisfaction as shown in Figure 1 in Chapter IV. These effects are very difficult to reverse without obtaining some type of instant relief and building up the command from there. We recommend that a further in-depth study be performed with a longer period of data and additional survey participation to get the feel of the command in the future.

THIS PAGE INTENTIONALLY LEFT BLANK

## LIST OF REFERENCES

- Aaron, G., & Sawitzky, A. (2006). *Organizational climate partially mediates the effect of culture on work attitudes and staff turnover in mental health services* [National Institutes of Health Public Access manuscript]. Retrieved from National Center for Biotechnology Information website: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1564125/>
- Army Mission and Installations Contracting Command (MICC). (2013). U.S. Army Mission and Installation Contracting Command [Fact sheet]. Retrieved from <http://www.micc.army.mil/pdf/MICC-Fact-Sheet-2013.pdf>
- Bureau of Labor Statistics. (2013). Payroll employment up 204,000 in October 2013. Retrieved from [http://www.bls.gov/opub/ted/2013/mobile/ted\\_20131112.htm](http://www.bls.gov/opub/ted/2013/mobile/ted_20131112.htm)
- Byrne, Z. S., Cropanzano, R., & Rupp, D. E. (2003). The relationship of emotional exhaustion to work attitudes, job performance, and organizational citizenship behaviors. *Journal of Applied Psychology*, 88(1), 166–169.
- Chiok Foong Loke, J. (2001). Leadership behaviors: Effects on job satisfaction, productivity and organizational commitment. *Journal of Nursing Management*, 9, 191–204. Retrieved from [http://scholar.google.com/scholar\\_url?hl=en&q=http://www.researchgate.net/publication/11869169\\_Leadership\\_behaviours\\_effects\\_on\\_job\\_satisfaction\\_productivity\\_and\\_organizational\\_commitment/file/8d1c84f78937dd8752.pdf&sa=X&scisig=AAGBfm2fXI6PEJPjMJZvRYK6EbN1LxvTWA&oi=scholar](http://scholar.google.com/scholar_url?hl=en&q=http://www.researchgate.net/publication/11869169_Leadership_behaviours_effects_on_job_satisfaction_productivity_and_organizational_commitment/file/8d1c84f78937dd8752.pdf&sa=X&scisig=AAGBfm2fXI6PEJPjMJZvRYK6EbN1LxvTWA&oi=scholar)
- Colligan, T. W., & Higgins, E. M. (2005). Workplace stress: Etiology and consequences. *Journal of Workplace Behavioral Health*, 21(2). Retrieved from <http://www.choixdecariere.com/pdf/6573/2010/ColliganHiggins2005.pdf>
- Congressional Budget Office. (1993, December). *Reducing the size of the federal civilian workforce*. Retrieved from <https://play.google.com/books/reader?printsec=frontcover&output=reader&id=Z3kZJh7E1coC&pg=GBS.PR1>
- Cotton, J. L., & Tuttle, J. M. (1986). Employee turnover: A meta-analysis and review with implications for research. *Academy of Management Review*, 11(1): 55–70.

- Curson, J., & Skidmore, T. (2010). Retaining a high quality workforce—Keeping hold of the family silver. *Strategic HR Review*, 9(5): 17-23.
- Gibbs, M. (2006). Returns to skills and personnel management: U.S. Department of Defense Scientists and Engineers. *Economic Inquiry* 44(2), 199-214.
- GoldenKoff, R. N. (2008, May). *Human capital: Transforming federal recruiting and hiring efforts* (GAO-08-762T). Washington, DC: Government Accountability Office.
- Government Accountability Office. (2001, January). *High risk series: An update* (GAO-01-263). Washington, DC: Author.
- Government Accountability Office. (2011, February). *High risk series: An Update* (GAO-11-278). Washington, DC: Author.
- Katz, N., & Koenig, G. (2001). Sports teams as a model for workplace teams: Lessons and liabilities [and executive commentary]. *The Academy of Management Executive*, 15(3). Retrieved from <http://www.jstor.org/stable/4165760?seq=4>
- Lewis, G. B., & Cho, Y. J. (2010). The aging of the state government workforce: Trends and implications. *The American Review of Public Administration*, 41 (1): 48-60.
- Levine, C. H. (1978, July–August). Organizational cutback management. *Public Administration Review*, 38(4), 316–325.
- Maslach, C. (2003, October). Job burnout: New directions in research and intervention. *Current Directions in Psychological Science*, 12(5).
- Mobley, W. H., Griffeth, R. W., Hand, H. H., & Meglino, B. M. (1979). Review and conceptual analysis of the employee turnover process. *Psychological Bulletin*, 86, 493–522.
- Phillips, L. (2003, April). Civilian human resource transformation (U.S. Army War College research project). Retrieved from <http://www.dtic.mil/cgi-bin/GetTRDoc?AD=ADA415865>
- Price, J. L. (1977). *The study of turnover* (1st ed.). Ames, IA: Iowa State University Press.
- Rath, T., & Clifton, D. (2004). The power of praise and recognition. *Gallup Management Journal*. (Reprinted from *How full is your bucket?* T. Rath & D. Clifton, 2004, New York, NY: Gallup Press). Retrieved from [http://www.firstmedia.com.sg/firstcampus/First\\_Campus\\_for\\_FM\\_website/Management%20Journal/The-Power-of-Praise-and-Recognition.pdf](http://www.firstmedia.com.sg/firstcampus/First_Campus_for_FM_website/Management%20Journal/The-Power-of-Praise-and-Recognition.pdf)

- Serbu, J. (2012, July 27). DoD extends civilian hiring restrictions through 2018. *Federal News Radio*. Retrieved from <http://www.federalnewsradio.com/440/2965810/DoD-extends-civilian-hiring-restrictions-through-2018>
- Tett, R. P., & Meyer, J. P. (1993). Job satisfaction, organizational commitment, turnover intention, and turnover: Path analyses based on meta-analytical findings. *Personnel Psychology*, 46(2): 259–293.
- Trevor, C. (2001). Interactive effects among actual ease of movement determinants and job satisfaction in the prediction of voluntary turnover. *Academy of Management Journal*, 44, 621–638.
- Trevor, C., Gerhart, B., & Boudreau, J. (1997). Voluntary turnover and job performance: Curvilinearity and the moderating influences of salary growth and promotions (Center for Advanced Human Resource Studies Working Paper 97-03). Retrieved from [http://digitalcommons.ilr.cornell.edu/cgi/viewcontent.cgi?article=1144&context=cahrswp&seiredir=1&referer=http%3A%2F%2Fscholar.google.com%2Fscholar%3Fhl%3Den%26as\\_sdt%3D0%2C5%26q%3Dquality%2Bemployees%2Bvoluntarily%2Bseparate#search=%22quality%20employees%20voluntarily%20separate%22](http://digitalcommons.ilr.cornell.edu/cgi/viewcontent.cgi?article=1144&context=cahrswp&seiredir=1&referer=http%3A%2F%2Fscholar.google.com%2Fscholar%3Fhl%3Den%26as_sdt%3D0%2C5%26q%3Dquality%2Bemployees%2Bvoluntarily%2Bseparate#search=%22quality%20employees%20voluntarily%20separate%22)
- Urichuck, B. (1999). Employee recognition and praise. *Canadian Manager*, 24(2), 27–29.
- Vandekerckhove, W., & Commers, M. S. (2003). Downward workplace mobbing: A sign of the times? *Journal of Business Ethics*, 45(1/2): 41–50. Retrieved from <http://www.jstor.org/stable/25075054?seq=1>
- Vandenberghe, R., & Huberman, M. A. (Eds.). (1999). *Understanding and preventing teacher burnout*. Cambridge, UK: Cambridge University Press.

THIS PAGE INTENTIONALLY LEFT BLANK



## **INITIAL DISTRIBUTION LIST**

1. Defense Technical Information Center  
Ft. Belvoir, Virginia
2. Dudley Knox Library  
Naval Postgraduate School  
Monterey, California